HW 24
AP Physics

1. How much energy is needed to ionize a hydrogen atom in the $n = 2$ state?
2. What wavelength photon would be required ionize a hydrogen atom in the ground state and give the ejected electron a kinetic energy of 10.0 eV?
3. At low temperatures, nearly all the atoms in hydrogen gas will be in the ground state. What minimum frequency photon is needed if the photoelectric effect is to be observed?
4. Electrons accelerated by a potential difference of 12.3 eV pass through a gas of hydrogen atoms at room temperature. What wavelengths of light will be emitted?